REMARKS

Claims 1-12 and 21-24 are pending in the present application. Reconsideration and allowance of the pending claims are respectfully requested.

In the Office Action, claims 1-12 and 21-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,764,793 to Omae et al. (hereinafter "Omae") and in further view of U.S. Published Application No. 2004/0043303 to Lassiter et al. (hereinafter "Lassiter"). Applicants respectfully traverse this rejection.

Independent claim 1 recites a method of detecting defects in a patterning device in a photolithographic process that includes "printing a reference pattern on a reference substrate using the patterning device and a beam of radiation; printing a pattern for manufacture of a device on a production substrate different from said reference substrate using the patterning device and beam of radiation; printing a test pattern on a test substrate using the patterning device and beam of radiation; and comparing the printed test pattern to the printed reference pattern to detect a defect in the patterning device." The combination of Omae and Lassiter does not disclose or suggest all of the features of claim 1.

Omae discloses a method and apparatus to inspect pattern defects on a printed wire board. (*See, e.g.,* Abstract of Omae). Omae is completely silent as to how the wire board is printed. Specifically, the cited portions of Omae merely mention that the patterns are printed, not *how* they are printed or what is used to print them. Because there are many different known methods of printing wire boards, Applicants respectfully submit that the mention of printing or printed wire boards of Omae does not equate or suggest printing with a patterning device and a beam of radiation, as recited by claim 1. The Office Action also confirms on page 2 that Omae "does not show [disclose] a method of using a patterning device and a beam of radiation."

Moreover, Omae is directed to inspecting the pattern defects on the board and fixing the pattern that is on the board itself, rather than altering the manner in which the pattern was initially created. (*See, e.g.,* col. 9, lns. 1-22 of Omae). Hence, Applicants respectfully submit that Omae does not disclose or suggest a method of detecting defects in a patterning device, as recited by claim 1.

Omae also does not disclose or suggest that the same patterning device, in which defects are to be detected (i.e. which is subject to the method), is used to 1) print the reference pattern, 2) print the pattern for manufacture of a device on a production substrate, and 3) print the test pattern.

Lassiter fails to remedy the deficiencies of Omae. Lassiter is directed to a method and apparatus for improving inspection of photomasks. The cited portions of Lassiter disclose the use of automated mask inspection systems for detecting defects, wherein the inspection methods include directing light or an illumination beam at the photomask to detect the transmission intensity. Lassiter fails to disclose "printing a reference pattern on a reference substrate using the patterning device and beam of radiation" and "printing a test pattern of a test substrate using the patterning device and beam of radiation," as recited claim 1.

Lassiter describes a method of manufacturing a photomask and inspecting the photomask using an illumination beam. However, Lassiter is silent as to printing a pattern using a patterning device and beam of radiation for the purpose of detecting defects. Rather, Lassiter detects an intensity of a transmitted beam through a processed photomask to determine defects. Thus, Lassiter does not disclose or teach the features of claim 1. More specifically, Lassiter fails to disclose, teach, or suggest detecting defects in a patterning device by printing a reference pattern on a reference substrate using the patterning device and beam of radiation, printing a test pattern on a test substrate using the patterning device and beam of radiation, and comparing the reference pattern and test pattern, as recited in claim 1.

Even if Omae and Lassiter were to be combined, which Applicants do not concede would even be proper, the combination would not provide or suggest the features as recited in claim 1. Rather, the combination would merely provide an inspection apparatus and method that inspects patterns and measures the intensity of a transmitted light beam. The combination would fail to disclose, teach, or suggest printing the different patterns (e.g., a reference pattern, a pattern for manufacture of a device, and a test pattern) recited in claim 1.

In view of the foregoing, Applicants respectfully submit that claim 1 and the claims that depend from claim 1, and include additional advantageous features, are patentable over the combination of Omae and Lassiter, and respectfully request that the rejection to claims 1-12 be withdrawn.

Independent claim 21 recites a method of detecting defects in a patterning device of a photolithographic apparatus that includes "generating a reference pattern on a first substrate using a beam of radiation and the patterning device; generating a pattern on a second substrate using the beam of radiation and the patterning device; and comparing the reference pattern on the first substrate to the pattern on the second substrate to detect a defect in the

patterning device." Omae and Lassiter do not disclose or suggest each and every feature of claim 21.

As discussed above, Omae does not even disclose a method of detecting defects in a patterning device. Instead, Omae is directed to detecting defects in printed wired boards. As is known in the printed wired board art, there are a plurality of ways to create a printed wired board. Moreover, as noted on page 2 of the Office Action, Omae does not even disclose a patterning device or a beam of radiation to generate a reference pattern or a pattern on a second substrate. As such, Omae does not disclose or even remotely suggest a method of detecting defects in a patterning device of a photolithographic apparatus having all of the features of claim 21.

As discussed above, Lassiter fails to remedy the deficiencies of Omae. Lassiter does not disclose or teach generating a reference pattern using a beam of radiation and the patterning device. In contrast, Lassiter detects the intensity or transmission of a beam through a photomask. Lassiter does not disclose or suggest detecting defects in a patterning device by generating a reference pattern on a first substrate, generating a pattern on a second substrate, and comparing the reference pattern on the first substrate to the pattern on the second substrate to detect a defect in the patterning device, as recited in claim 21.

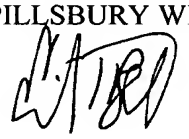
In view of the foregoing, Applicants respectfully submit that claim 21 and the claims that depend from claim 21, and include additional advantageous features, are patentable over the combination of Omae and Lassiter, and respectfully request that the rejection to claims 21-24 be withdrawn.

All rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited. If any point remains at issue which the Examiner feels may best be resolved through a personal or telephone interview, please contact the undersigned at the telephone number below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP



EMILY T. BELL
Reg. No. 47,418
Tel. No. 703.770.7661
Fax No. 703.770.7901

Date: July 23, 2007
ETB/JAS
P.O. Box 10500
McLean, VA 22102
703.770.7900